

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

KAIFI LLC,

Plaintiff,

v.

AT&T INC. ET AL.

Defendants.

Case No. 2:19-cv-138-JRG

JURY TRIAL DEMANDED

DEFENDANT AT&T'S RESPONSIVE CLAIM CONSTRUCTION BRIEF

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TABLE OF EXHIBITS¹

Exhibit	Document
Ex. 1	Declaration of Dr. Daniel van der Weide (Jan. 12, 2020) and Appendices
Ex. 1-1	U.S. Patent No. 6,922,728
Ex. 1-2	Newton's Telecom Dictionary (2002)
Ex. 1-3	RFC 2002: IP Mobility Support (Oct. 1996)
Ex. 1-4	RFC 2290: Mobile-IPv4 Configuration Option for PPP IPCP (Feb. 1998)
Ex. 1-5	RFC 2794: Mobile IP Network Access Identifier Extension for IPv4 (Mar. 2000)
Ex. 1-6	U.S. Patent No. 6,731,621
Ex. 1-7	1xEV-DO Inter-Operability Specification (IOS) for CDMA 2000 (June 14, 2001)
Ex. 1-8	3GPP2 Access Network Interfaces Interoperability Specification (June 2001)
Ex. 1-9	C. Perkins, <i>Mobile Networking Through Mobile IP</i> (IEEE 1998)
Ex. 1-10	Joint Claim Construction and Prehearing Statement (Dkt. 51-1) (Jan. 6, 2020)
Ex. 2	Rebuttal Declaration of Dr. Daniel van der Weide (Jan. 22, 2020)
Ex. 3	Transcript of the deposition of Dr. Daniel van der Weide (Jan. 27, 2020)
Ex. 4	Transcript of the deposition of Dr. Brian T. Kelley (Jan. 24, 2020)
Ex. 5	U.S. Patent No. 6,603,761

¹ Exhibits are attached to the Declaration of Nathan R. Curtis in Support of AT&T's Responsive Claim Construction Brief, filed concurrently herewith.

TABLE OF ABBREVIATIONS

Abbreviation	Term / Document(s)
'728 patent	U.S. Patent No. 6,922,728 (filed Dec. 18, 2001, and issued July 26, 2005) (Ex. 1-1)
'761 patent	U.S. Patent No. 6,603,761 (filed Jan. 7, 2000, and issued Aug. 5, 2003) (Ex. 5)
3GPP2.A	3GPP2 Access Network Interfaces Interoperability Specification (June 2001) (Ex. 1-8)
AT&T	Defendants AT&T Corp., AT&T Communications, LLC, AT&T Mobility LLC, and AT&T Services, Inc., collectively
Br.	Brief
Dkt.	Docket Number
IAD	Integrated access device
IETF	Internet Engineering Task Force
JCCS	Joint Claim Construction and Prehearing Statement (Dkt. 51-1)
KAIFI	Plaintiff KAIFI LLC
KAIFI Br.	Opening Claim Construction Brief by KAIFI LLC (Feb. 10, 2020) (Dkt. 62)
Kelley Decl.	Declaration of Brian T. Kelley (Jan. 13, 2020) (Dkt. 62-10)
Kelley Dep.	Transcript of the deposition of Dr. Brian T. Kelley (Jan. 27, 2020) (Ex. 4)
LAN	Local Area Network
Mink	S. Mink et al., <i>Towards Secure Mobility Support for IP Networks</i> (IEEE 2000) (Dkt. 62-44)
Perkins	C. Perkins, <i>Mobile Networking Through Mobile IP</i> (IEEE 1998) (Ex. 1-9)
POSA	Person having ordinary skill in the art
RFC	Request for Comment
SSID	Service Set Identifier
VDW Decl.	Declaration of Dr. Daniel van der Weide (Jan. 12, 2020) (Ex. 1)
VDW Dep.	Transcript of the deposition of Dr. Daniel van der Weide (Jan. 24, 2020) (Ex. 3)
VDW Reb. Decl.	Rebuttal Declaration of Dr. Daniel van der Weide (Jan. 22, 2020) (Ex. 2)
WLAN	Wireless Local Area Network

I. INTRODUCTION

AT&T's proposed constructions reflect the plain language of the claims and the clear, consistent teachings of the '728 patent, including repeated descriptions of the "present invention." KAIFI's proposed constructions, by contrast, ignore the claims and specification, and strip key claim terms of any meaning or connection to the "present invention." That is deliberate, of course, as AT&T does not infringe the claims as written.

For example, fundamental to the '728 patent are the terms "indoor"/"indoors" and "outdoor"/"outdoors," which collectively appear over 400 times, including in the title of the patent, the abstract, and every single claim. All of the claims require an "indoor network" and an "outdoor wireless internet network." Of course, the patentee did not need to define the claimed network in terms of whether it is an "indoor" network or an "outdoor" network, but that is what the patentee chose to do. The patent consistently uses the adjectives "indoor" and "outdoor"—which modify and limit the claimed networks—in line with their plain meaning to refer to the inside and outside of homes and buildings, respectively. And, that is exactly how AT&T proposes that the terms be construed. KAIFI proposes constructions for these terms that not only bear no relation to the plain meaning of "indoor" and "outdoor," but also actually read "indoor" and "outdoor" completely out of the claims and render these claim terms meaningless and superfluous.

In fact, although the patentee chose to write the patent *and every single claim* in terms of whether a device is indoors or outdoors and whether it is connected to an indoor network or an outdoor network, in its brief, KAIFI tries to equate "indoor network" with Wi-Fi (regardless of whether it is indoors or not). But, that is not what the patent says. In fact, Wi-Fi existed at the time the patent was prepared, but that term does not appear even a single time in the patent. KAIFI could have claimed Wi-Fi, but it didn't. KAIFI could have claimed any local area network, but it didn't do that either. Rather, it wrote its patent and all of its claims in terms of indoors and

outdoors, using indoor networks and outdoor networks. KAIFI's proposed constructions are simply an effort to rewrite its claims to broaden them to cover subject matter that it did not claim.

AT&T's constructions of these and the remaining terms should be adopted because they are fully consistent with—and, indeed, compelled by—the clear description of the patent and the plain language of the claims.²

II. TECHNOLOGY BACKGROUND

The '728 patent describes two types of wireless communication networks: “indoor” and “outdoor” networks. According to the patent, “indoor” networks are wireless networks based indoors—*i.e.*, inside a home or building. '728 patent at 6:8–9, 14:38–39. An indoor network's wireless radio signals originate from a component called the “indoor gateway” and use known wireless technologies, such as Bluetooth. *Id.* at 3:5–8, 5:13–57, 6:6–29, 6:58–61. “Outdoor” networks, by contrast, are wireless networks based outdoors—*i.e.*, outside homes and buildings. *Id.* at 6:34–36, 7:1–5. Due to their widespread reach, outdoor networks would generally extend into buildings as well, thereby overlapping with indoor networks in indoor locations. *See id.* at

² Rather than adhere to the patent and its stated purposes, KAIFI's constructions are supported primarily by a declaration from its expert, Dr. Kelley. His declaration should be afforded no weight. *First*, at deposition, Dr. Kelley demonstrated a lack of familiarity with his declaration or its subject matter. For example, he argued that the “RFC 2002” standard could not be the “mobile IP” referenced in claim 4 because the “2002” in the name represented the year of publication. Kelley Dep. (Ex. 4) at 225:13–226:6. But, as his declaration stated, and as he realized after AT&T's counsel pointed him to it, “RFC 2002” was published in 1996—undermining his entire explanation. Kelley Decl. (Dkt. 62-10) ¶ 227; Kelley Dep. (Ex. 4) at 230:8–22. *Second*, nearly all the 48 extrinsic references on which Dr. Kelley relies are non-contemporaneous with the patent and therefore non-probative. Additionally, 44 of these 48 extrinsic sources were not cited in KAIFI's P.R. 4-2 disclosure. Addressing these late-disclosed references was the focus of AT&T's expert's rebuttal declaration. *See* KAIFI Br. 7 n.3 (alleging rebuttal was improper). *Third*, Dr. Kelley improperly draws support from present-day extrinsic sources relating to Wi-Fi networks. *See, e.g.*, KAIFI Br. 10 (relying on 2016 “Aruba” document and 2011 Motorola document). Wi-Fi networks are what KAIFI accuses of infringement, yet Wi-Fi is never mentioned in the '728 patent. It is improper for KAIFI to seek a construction of any term based on a particularity relating to Wi-Fi.

1:61–67, 12:6–12, 6:34–36, 7:1–5, 14:38–48. Mobile devices such as phones and PDAs—which the patent calls “data communication terminals”—would communicate wirelessly with indoor networks (via the indoor gateway) and outdoor networks. *Id.* at Abstract, 1:8–28, 1:20–67, 2:18–25, 2:49–51, 2:63–3:1.

Although both indoor and outdoor networks would be available in indoor locations, there were alleged benefits to communicating wirelessly with the indoor network as opposed to the outdoor network. Because indoor networks were based in homes and buildings, their communications with the internet could be routed through the home or building’s existing wired internet connection, which would purportedly cost less to the user and have superior connection speed and quality. *Id.* at 2:1–8, 2:38–41, 2:52–3:4, 4:64–5:1, 6:66–7:5, 14:38–39. By contrast, outdoor networks did not have access to a home or building’s wired connection to the internet, and therefore would purportedly have higher user charges based on the volume of data transmitted and inferior connection speeds and lower quality. *Id.* at 2:1–14, 2:35–53, Figs. 1A, 1B, 2. Thus, for users who moved around between indoor and outdoor locations, there were supposed cost, speed, and quality disadvantages to relying on outdoor networks at all times, and so the patent explains that the indoor network should be used when available. *Id.* at 2:1–14, 14:38–39.

As a result, according to the patent, there was a need for a communication system that allowed users to move between indoor and outdoor locations and stay wirelessly connected to the internet in all locations, while exploiting the benefits of indoor networks as much as possible. *Id.* at 2:1–25. The “present invention” purports to satisfy this need by disclosing a “roaming” system whereby a user can move between indoor and outdoor locations and stay connected through indoor and outdoor networks, but with a preference for connecting to the *indoor* network where it is available. That is, and as KAIFI agrees, the phone would connect to the indoor network whenever

the user is located indoors (subject to an explicit exception, explained below) and to the outdoor network whenever the user is located outdoors, and switch between the indoor and outdoor networks as the user moves between indoor and outdoor locations. ’728 patent at 1:58-61, 2:34–3:8, 3:23–35, 4:64–5:3, 6:1–8, 8:39–40, 14:56–61, Fig. 2; VDW Decl. (Ex. 1) ¶ 27; KAIFI Br. 5; Kelley Decl. ¶ 60 (“The claimed system switches the data communication terminal to the Wi-Fi network when it is accessible (including permissions), even if the cellular network is available.”).

Indeed, as discussed below, the patent explicitly defines the term “indoors” to mean the region in which the mobile device is capable of connecting to the indoor network. ’728 patent at 14:43–48. And, the patent defines “outdoors” to mean the region in which the mobile device is not capable of connecting to the indoor network. *Id.* The terms “indoors” and “outdoors” are explicitly defined in this way—*i.e.*, in terms of whether the device is capable of connecting to the indoor network—because the patent recognizes that, due to realities of radio communication, an indoor network’s wireless signals might actually extend outside a building, and at the same time might fail to reach some area inside the building. *Id.* at 14:38–48. Thus, the patent defines “indoors” and “outdoors” not based on whether a mobile user is physically inside or outside a building, but rather based on whether or not the mobile device receives the indoor network’s wireless signals broadcast by the indoor gateway. *See id.* at 14:43–48. That is, if the mobile device is capable of receiving the indoor network’s wireless signals, it is considered “indoors”; conversely, if the mobile device is not capable of receiving the signals, is it “outdoors.” *Id.*

The idea of connecting to an indoor network when indoors (*i.e.*, when capable of connecting to the indoor network), and an outdoor network when outdoors (*i.e.*, when not capable of connecting to the indoor network), is described clearly and consistently throughout the patent. ’728 patent at 1:58-61, 2:34–3:8, 3:23–35, 8:39–40, 14:56–61. For example, the patent explains:

First, in the present invention, when a user is *located indoors*, an indoor wireless connection module and an indoor gateway . . . are used. Further, when the user is *located outdoors*, an ordinary outdoor wireless internet network is used.

Id. at 4:64–5:3. Similarly, the patent goes on to explain that “when the user is *located outdoors*, an ordinary outdoor wireless internet network is used,” but “*when the user moves indoors*, the present invention allows the connection with the communication network to be switched from the ordinary outdoor wireless internet network to an indoor communication network.” *Id.* at 6:1–8.

III. TERMS FOR CONSTRUCTION

A. Terms Based on “Indoor(s)” and “Outdoor(s)”

AT&T’s proposed constructions are consistent with the plain meaning of these terms and the patent’s descriptions and definitions for them. KAIFI’s proposed constructions depart from the specification and claims, and, worse, read out these important concepts.

1. “indoor network” / “outdoor wireless internet network” (all asserted claims)

Term	AT&T’s Construction	KAIFI’s Construction
“indoor network”	“wireless network based in a home or building”	“a wireless network identified by or corresponding to the indoor system ID information broadcast by the indoor gateway”
“outdoor wireless internet network”	“wireless network based outside a home or building”	“a (subscriber) network external to the indoor network providing wireless internet connectivity”

The parties agree that “indoor network” and “outdoor wireless internet network” refer to different wireless networks, but disagree as to how these networks should be defined. KAIFI Br. 7. AT&T’s constructions are straightforward and reflect the plain meaning of “indoor” and “outdoor.” An indoor network is, by its very name, a network based in a home or building—meaning that it primarily serves users inside the home or building. *E.g.*, ’728 patent at 6:8–9, 6:34–36, 7:1–5, 14:38–39; VDW Dep. (Ex. 3) at 202:5–24, 203:5–8. Similarly, an outdoor network is, by its very name, based outside a home or building—meaning that it primarily serves users outside of homes and buildings. ’728 patent at 6:66–7:5. This is exactly what makes the

networks “indoor” and “outdoor.” *See Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001). The specification confirms AT&T’s construction by referring to the “indoor network” as a “home” network, and by associating the “indoors” with “the interior of all kinds of constructions such as buildings or houses.” ’728 patent at 6:8–9, 14:38–39. Likewise, the specification explains that an “outdoor wireless internet network” can “support several tens to several hundreds of users and cover a *range of several kilometers*.” *Id.* at 6:34–36, 7:1–5.³

Unable to refute AT&T’s constructions, KAIFI mischaracterizes them. KAIFI argues that AT&T’s construction of “indoor network” depends on “the placement of the network equipment,” and relatedly that AT&T’s constructions violate claim differentiation because dependent claim 7 limits the placement of the network equipment. *See* KAIFI Br. 8–10. This is incorrect. AT&T’s constructions have *nothing* to do with the physical placement of equipment.⁴ Rather, and as KAIFI agrees, “[t]he specification describes ‘indoor network’ in terms of where the network is available, not where the equipment is placed.” *Id.* at 10. AT&T’s constructions focus on where the networks primarily serve users—*i.e.*, in a home or building (indoor network) or outside a home or building (outdoor network).⁵ ’728 patent at 14:38–48. Further, claim 7 limits the *type* of network equipment (*i.e.*, the indoor gateway is “one of a home gateway and an IAD”), not its placement.

³ KAIFI argues that AT&T’s expert’s explanation that the indoor network is “associated with” a home or building is a change in language from AT&T’s construction. KAIFI Br. 9–10. This is wrong, as it is simply another way of expressing the same meaning of AT&T’s construction.

⁴ KAIFI argues that AT&T’s expert admitted that indoor and outdoor networks cannot be distinguished under AT&T’s constructions. KAIFI Br. 9. This is incorrect. Dr. van der Weide merely answered that the placement of the indoor gateway is immaterial to AT&T’s constructions. VDW Dep. (Ex. 3) at 204:1–14. He also testified that a POSA would have a “sensible understanding” of the distinction between the two networks. *Id.* at 195:13–196:8.

⁵ To the extent the Court determines that “based in” in AT&T’s constructions implicate the placement of equipment, AT&T is amenable to constructions clarifying that the “indoor network” is a network that primarily serves users in a home or building, and the “outdoor wireless internet network” is a network that primarily serves users outside a home or building.

Next, KAIFI argues that AT&T's constructions require the indoor and outdoor networks to be "geographically different," but this is also incorrect. KAIFI Br. 11–12. As explained, AT&T does not dispute that the patent allows the indoor and outdoor networks to overlap in space. AT&T's constructions account for this physical overlap between the networks, since "based in" and "based outside" do not mean "exclusively in" or "exclusively outside." '728 patent at 12:6–12, 14:38–48. In sum, KAIFI cannot offer any defensible argument against AT&T's constructions.

By contrast, KAIFI's proposals contradict the patent's unambiguous disclosure and rewrite the claims. First, although the patent repeatedly describes the "indoor" and "outdoor" networks in relationship to physical structures (*e.g.*, '728 patent at 4:64–5:1, 6:66–7:5, 9:1–2), KAIFI admits its proposals have no association with physical structures. *See* KAIFI Br. 4 ("patent does not limit the invention in terms of 'indoors' or 'outdoors,' but instead defines the networks themselves").

Second, KAIFI's reliance on circular definitions reads "indoor" and "outdoor" squarely out of the claims. KAIFI defines the "indoor network" in terms of two phrases: (1) "indoor system ID information," and (2) "indoor gateway." KAIFI Br. 7 (arguing "indoor network" means "a wireless network identified by or corresponding to the *indoor system ID information* broadcast by the *indoor gateway*"). However, neither of these phrases gives "indoor network" any actual meaning, because KAIFI defines each phrase in terms of the "indoor network." Specifically, KAIFI defines "indoor system ID information" as "information uniquely identifying the indoor network" (KAIFI Br. 12), and "indoor gateway" as "a system that broadcasts an indoor system ID" (Kelley Dep. (Ex. 4) at 182:3–13). Thus, KAIFI nonsensically defines "indoor network" in terms of "indoor network." Nothing in KAIFI's definitions give *any* meaning to "indoor," let alone a meaning that ties it to the physical indoors. KAIFI's construction for "outdoor network"

similarly has no association with the exterior of any structure. According to KAIFI, the “outdoor network” is “simply a different network that is *external* to the indoor network.” KAIFI Br. 11.

KAIFI therefore strips any possible meaning out of the words “indoor” and “outdoor” in these terms, and effectively writes these words out of the claims. *See 3M Innovative Properties Co. v. Tredegar Corp.*, 725 F.3d 1315, 1329 (Fed. Cir. 2013) (claim “should be understood in a way that does not render the actual words of the claim superfluous”). If KAIFI’s constructions were adopted, KAIFI could argue for purposes of infringement that *any* wireless network, even a network that is located entirely outside, is an “indoor network.”

Indeed, KAIFI’s expert conceded that KAIFI’s constructions have nothing to do with the actual indoors or outdoors. In his view, under KAIFI’s constructions, “indoor” networks are local area networks (LAN) and “outdoor” networks are wide area networks (WAN). *See Kelley Dep.* (Ex. 4) at 98:6–19, 113:15–20, 114:4–12, 122:23–123:8, 126:21–127:6; *see also Kelley Decl.* ¶¶ 66–103. Defining “indoor” and “outdoor” as LAN and WAN rewrites the claims, as any meaning of “indoor” or “outdoor” would be lost. Dr. Kelley does not dispute this, as he concedes that a Wi-Fi network set up *anywhere*, even in an open field with no physical structure in sight, would be an “indoor network” simply because it is a LAN. *Kelley Dep.* (Ex. 4) at 176:19–178:11, 200:20–201:2.⁶ Thus, KAIFI believes that a Wi-Fi network *in the middle of the Sahara* would be an “indoor network.” *See id.* Not only is this nonsensical, but it contradicts KAIFI’s own “plain and ordinary meaning” constructions for “indoors” and “outdoors,” as explained below.

⁶ As admitted by KAIFI’s expert, KAIFI’s constructions are also inconsistent with the patent’s embodiment describing an “outdoor” wireless LAN, since KAIFI views LANs as indoor, and not outdoor, networks. *See* ’728 patent at 1:58–67, 2:41–46, 6:34–36, 6:47–53, 8:36–39, Figs. 1a, 1b, 2 (describing “outdoor wireless LAN”); *Kelley Dep.* (Ex. 4) at 92:10–16, 114:4–12, 126:21–127:6, 145:9–12, 156:1–13, 159:12–20 (testifying LANs are indoor networks, not outdoor networks); *Duncan Parking Techs., Inc. v. Ips Grp., Inc.*, 914 F.3d 1347, 1364 (Fed. Cir. 2019) (“exclud[ing] the preferred embodiment is highly disfavored”).

KAIFI offers only one justification for defining “indoor” and “outdoor” without any regard to the actual indoors or outdoors. Relying on its expert, KAIFI argues the patent “uses indoors and outdoors in a colloquial sense.” KAIFI Br. 10. KAIFI’s argument is misguided. A “colloquial” use of “indoor”/“outdoor” would only confirm *AT&T*’s constructions. As explained, *AT&T*’s constructions give “indoor”/“outdoor” their common English meanings. By contrast, as explained, KAIFI’s constructions have nothing to do with the colloquial meaning—or *any other* meaning—of “indoor” and “outdoor.”

Putting aside *AT&T*’s correct, and KAIFI’s incorrect, interpretation of “indoor”/“outdoor,” KAIFI’s construction of “outdoor wireless internet network” has other flaws. First, KAIFI limits outdoor networks to “subscriber” networks, but there is no basis for doing so and none of KAIFI’s cited evidence supports importing such a limitation. KAIFI Br. 11. For example, KAIFI’s cited passage from the patent at 6:8–9 refers to a user’s internet service coming into the home by way of a subscription such as ADSL or cable, and is expressly associated with the *indoor*, not the outdoor, network. KAIFI’s other citations are to a “subscriber *wireless router*” and a “*data communication* subscriber”; neither passage even suggests, let alone requires, that the “outdoor wireless internet network” must be limited to a “subscriber” network. KAIFI Br. 11.

Second, KAIFI inserts the word “external,” but this is an incorrect use of that term. The patent’s five invocations of “external” do not limit the “outdoor” network as KAIFI contends, but rather refer to a *different* network. KAIFI Br. 11. The invocation of “external” at 8:41–43 actually contradicts KAIFI’s attempt to equate it to “outdoor,” as the “external” network in Figure 2 is described to be wholly separate from the “outdoor” network. *See* ’728 patent at 8:31–46. Thus, “external” and “outdoor” are not used interchangeably by the patent.

2. “indoors” and “outdoors” (all asserted claims)

Term	AT&T's Construction	KAIFI's Construction ⁷
"indoors"	"region capable of receiving the system ID information on the <i>indoor network</i> through the data communication terminal"	Plain/ordinary meaning; no construction necessary
"outdoors"	"region incapable of receiving the system ID information of the <i>indoor network</i> through the data communication terminal"	Plain/ordinary meaning; no construction necessary

AT&T's constructions for "indoors" and "outdoors" (the noun terms, referring to physical places) adopt the patentee's own lexicography, verbatim. The patent explicitly defines "indoors" as "a region capable of receiving the system ID information on the indoor network through the data communication terminal." '728 patent at 14:45–48. And, in contrast, the patent defines "outdoors" as "a region incapable of receiving the system ID information of the indoor network through the data communication terminal." *Id.* at 14:43–45.

[T]he "*outdoors*" is regarded as a region incapable of receiving the system ID information of the indoor network through the data communication terminal, and the "*indoors*" is regarded as a region capable of receiving the system ID information on the indoor network through the data communication terminal.

Id. at 14:43–48. Because the patent defines these terms, those definitions govern. *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1380 (Fed. Cir. 2009) ("When a patentee explicitly defines a claim term in the patent specification, the patentee's definition controls.").

These definitions make sense, as they are intended to ensure that the claimed invention is operative and maximizes the patent's stated goals, in view of the physical realities of wireless networks. As the parties agree, the wireless signals of an indoor network do not necessarily fill a building exactly to its walls and stop there (as water would fill a bottle). The wireless signals might extend beyond the walls of the building in some places, and might fail to reach all corners of the building in other places. *See* KAIFI Br. 10, 18; Kelley Decl. ¶ 80. In the patent, as explained,

⁷ KAIFI stated in the JCCS that the plain and ordinary meaning of "indoors" is "when connected to the indoor network" and that of "outdoors" is "when connected to the outdoor wireless internet network." *See* Dkt. 51-1 at 7–8. KAIFI seems to have abandoned these positions, as they are not expressed in its brief. As such, AT&T does not address them here.

the data communication terminal prefers connecting to the indoor network. Because the indoor or outdoor network is chosen based on the user's location being indoors or outdoors, the patent defines those locations of "indoors" and "outdoors" based on where the terminal can connect with the indoor network. That region is defined by where the terminal is capable of receiving the "system ID information" of the indoor network, as reflected in the definitions above. '728 patent at 3:16–19. Defining the "indoors" and "outdoors" this way allows the terminal to connect to the indoor network wherever it is available, and to fall back to the outdoor network where the indoor network is not available, thereby maximizing the stated benefits of the indoor network. Similarly, these definitions recognize that the indoor network might not reach every corner of a building, and thus the data communication terminal must connect to the outdoor network in such locations. Notably, the patentee's definitions are still tied to physical structures, because they are defined in terms of the indoor network, which primarily serves users inside a home or building as explained.

KAIFI argues that AT&T may "impose a geographical requirement that limits outdoor wireless internet network only to regions where indoor system ID information is not available." KAIFI Br. 17. KAIFI is wrong: AT&T agrees the outdoor network may extend to the indoors. '728 patent at 1:61–67, 12:6–12, 6:34–36, 7:1–5, 14:38–48. KAIFI similarly errs in arguing that "indoors" and "outdoors" are not "mutually exclusive." KAIFI Br. 17. They are defined in the patent as mutually exclusive. *Id.* at 14:43–48. While the "indoors" and "outdoors" are mutually exclusive, there is no dispute that the patent allows the (wireless signals of the) indoor and outdoor *networks* to overlap in space.

Finally, KAIFI's position that indoors/outdoors should be construed as having plain and ordinary meaning is wrong. KAIFI Br. 16. As the patent explicitly defines "indoors" and "outdoors," those definitions govern. Furthermore, to the extent these terms should be understood

to have their plain and ordinary meaning, it would compel *AT&T's* constructions for “indoor network” and “outdoor wireless internet network,” and would further demonstrate why KAIFI’s constructions for those terms are wrong. The plain and ordinary meanings of “indoors” and “outdoors” are the interiors and exteriors of homes and buildings. Yet, as explained above and as KAIFI admits, KAIFI disconnects “indoor network” from anything to do with the actual indoors (*see, e.g.*, discussion above of Wi-Fi in the Sahara being “indoor”). KAIFI’s positions highlight the inconsistency in its own constructions, and demonstrate that AT&T’s constructions are correct.

3. “indoor system ID information” (all asserted claims)

AT&T’s Construction	KAIFI’s Construction
“information identifying the indoor gateway”	“information uniquely identifying the indoor network”

The parties agree that “indoor system ID information” is “identifying” information that allows the data communication to communicate with the indoor network, but disagree over whether what is specifically being identified is the indoor *gateway* (AT&T) or the indoor *network* (KAIFI).⁸ Here, the patentee again acted as his own lexicographer, explicitly stating that the indoor system ID information is “*assigned*” to the *indoor gateway*: “[T]he *indoor gateway* 100 includes an indoor wireless connection module C therein, and *its own unique system ID, i.e. indoor system ID information, is assigned thereto.*” ’728 patent at 8:52–55; KAIFI Br. 12. Indeed, KAIFI admits that “the indoor system ID information *is assigned to the indoor gateway,*” thus confirming AT&T’s proposed construction. KAIFI Br. 13.

KAIFI argues that the “specification consistently refers to the broadcasted indoor system ID information as identifying the *network.*” KAIFI Br. 12–13. This is incorrect. The specification explains that the indoor system ID information is broadcast *on* the indoor network; it does not ever

⁸ Although “uniquely” is superfluous to the construction, AT&T is not opposed to including it.

say that the indoor system ID information *identifies* or is *assigned to* the indoor network. *See* ’728 patent at 11:22–25, 14:46–48. As explained above, the only time in the entire specification in which the indoor system ID information is ever described as being “assigned” to anything, it is assigned to the indoor gateway—not to the indoor network. *Id.* at 8:52–55.

KAIFI also argues its construction must be correct for the invention to operate. KAIFI Br. 13. This too is wrong. As explained in the patent, the indoor system ID information identifies the hardware (indoor gateway) to which a data communication terminal connects, distinguishing the indoor gateway from other indoor gateways to connect to the particular indoor gateway. For example, the patent explains that a mobile device “is connected with the *indoor gateway 100 in accordance with the indoor system ID information* and makes wireless communications with the indoor gateway.” ’728 patent at 10:27–30.

Finding insufficient intrinsic support, KAIFI relies on Dr. Kelley’s flawed declaration, which relies on Wi-Fi and the 802.11 standard (including the concept of “SSIDs”) to interpret the claims. KAIFI Br. 12–13; *see* Kelley Decl. ¶ 114 (citing the IEEE 802.11 standard to describe SSIDs). Not only are Wi-Fi and 802.11, much less SSIDs, never mentioned in the ’728 patent (Kelley Dep. (Ex. 4) at 90:7–24, 91:3–9, 91:15–23), they are accused technologies in this case. “It is well settled that claims may not be construed by reference to the accused device.” *NeoMagic Corp. v. Trident Micro., Inc.*, 287 F.3d 1062, 1074 (Fed. Cir. 2002).⁹

B. “provides roaming of voice/data signals provided to the user” (claims 1–7, 9–11)

AT&T’s Construction	KAIFI’s Construction
“allows the user’s voice/data communications to switch between different network paths”	“provides uninterrupted voice/data communication service by automatically switching network paths”

KAIFI does not dispute AT&T’s proposed construction (KAIFI Br. 15), except that KAIFI

⁹ AT&T agrees to KAIFI’s construction for “registered indoor system ID information.”

proposes *additional* limitations that are not in the claims and are unsupported by the specification. These additional limitations, obviously designed to avoid prior art, are entirely inappropriate.

This term appears in the “router” limitation of claim 1—*i.e.*, “a router that determines the location of the data communication terminal stored in the location register and *provides roaming of voice/data signals provided to the user* by selecting one of the indoor and the outdoor networks in accordance with the determined location of the data communication terminal.” ’728 patent at cl. 1. Thus, the role of the claimed “router” is literally to “route” or switch traffic to the indoor or outdoor network depending on the location of the user. *See id.* at cl. 1, 3:42–47, 10:46–52. KAIFI’s proposed construction, however, improperly attempts to read in three limitations with respect to the claimed routing and switching of connections: that it is “uninterrupted,” that it occurs “automatically,” and that it relates to “communication *service*.”

With respect to KAIFI’s attempt to insert “uninterrupted” into the claims, KAIFI merely cites embodiments in the specification where switching between networks is done “without interruption.” *See* KAIFI Br. 15–16. KAIFI does not cite anything in the claims or specification—and AT&T is not aware of anything—that *requires* a lack of interruption when roaming. *See id.* Indeed, had the patentee wanted to claim “uninterrupted” switching, he would have said so. KAIFI should not be permitted to read embodiments into the claims.

Second, with respect to “automatically,” KAIFI quotes excerpts from the specification out of context. *See* KAIFI Br. 16. For example, KAIFI quotes the specification stating that “the present invention can provide the user with the convenience of a call by automatically switching the connection to the outdoor mobile communication network” (’728 patent at 11:1–3) and that “[t]he communication connection according to the present invention is automatically switched” (*id.* at 12:19–23). KAIFI Br. 16. But these excerpts do not state that it is the *router* that

automatically switches network paths; it is the *connection* that is automatically switched. Indeed, there is nothing in the claims or specification in which the router is described as “automatically” switching. It is thus improper to add “automatically” to this limitation related to the router.

Finally, there is nothing in the patent stating that the router alone provides the “communication *service*.” Rather, in claim 1, multiple components are involved in allowing communications (*e.g.*, the indoor gateway, the location register, and data communication terminal), so “communication service” cannot be met only by the router’s “roaming” function. *See* ’728 patent at cl. 1 (preamble of claim 1 reciting “[a]n internet network connecting and *roaming system providing internet communication service* to a data communication terminal . . .”).

C. “location register” (all asserted claims)¹⁰

AT&T’s Construction [<i>amended</i>]	KAIFI’s Construction
“register that records a current location of a data communication subscriber”	This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.

The patent describes the “location register,” in accordance with AT&T’s construction, as a register that records a current location of a data communication subscriber. The patent explains:

[t]he *location register 80* is the home agent HA or the foreign agent FA which operates in accordance with the mobile IP protocol and *records a current location of a data communication subscriber*.¹¹

’728 patent at 9:12–15, 3:9–13, 7:66–8:3, 14:28–31. According to the “present invention,” the location register records the data communication subscriber’s location “in order to confirm as to

¹⁰ AT&T contends that the term “*the* location register” (with the “the”) in claims 1–7 and 9–11 is indefinite. This indefiniteness issue is addressed separately in § IV.B, below.

¹¹ AT&T originally proposed adopting this entire quoted description as the construction for “location register.” JCCS at 10. However, KAIFI argued AT&T’s construction violated principles of claim differentiation in view of claim 6, which recites “wherein the location register is one of a home agent and a foreign agent.” KAIFI Br. 19. Although AT&T disagrees with KAIFI’s position, AT&T hereby drops the portion of its construction that had the HA/FA as a required element and leaves the portion describing the function of the location register.

whether the user of the wireless internet terminal is located indoors or outdoors.” *Id.* at 3:9–13.

AT&T’s construction of “location register” is not in dispute, as KAIFI’s expert *agrees* that the location register records the location of a current subscriber. Kelley Decl. ¶ 188 (“This confirms that a ‘location register’ is, as its name implies, a register for location information.”). KAIFI also has no remaining criticism of AT&T’s construction. The only attack on AT&T’s construction in KAIFI’s brief was based on claim differentiation, but KAIFI’s arguments are moot in view of the simplification of AT&T’s construction as explained in footnote 11, above.

Notwithstanding KAIFI’s expert’s agreement, KAIFI urges the Court not to construe this term, claiming “plain and ordinary meaning.” However, this is a highly technical term whose agreed-upon meaning should be provided to the jury. KAIFI’s proposal should be rejected.

D. “location information” (all asserted claims)

AT&T’s Construction	KAIFI’s Construction
“information on a locational area when the data communication terminal is located outdoors, and indoor system ID information when the terminal is located indoors”	This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction. To the extent that this term should be construed, its plain and ordinary meaning is: “locational area or indoor system ID information”

The patentee also acted as his own lexicographer for the term “location information.” The patent consistently describes “location information” to mean information on a locational area when the data communication terminal is located outdoors, and indoor system ID information when the terminal is located indoors. In fact, the Summary of the Invention defines it this way in its description of the “present invention”:

When the data communication terminal is located outdoors, the location information is information on a locational area; and when it is located indoors, the location information is indoor system ID information.

Id. at 3:48–51. Likewise, the Detailed Description of the Invention reiterates:

The information stored in the location register 80 is information on a locational area when the data communication terminal is located outdoors. On the other hand,

when the terminal is located indoors, it is indoor system ID information.

Id. at 9:16–20. Only AT&T’s construction reflects the patentee’s governing lexicography.

KAIFI has only one criticism of AT&T’s construction. KAIFI argues AT&T excludes a preferred embodiment described in the patent as “the indoor location stored in the location register includes the indoor system ID.” KAIFI Br. 21 (quoting the ’728 patent at 4:23–24).

KAIFI is wrong for two reasons. First, KAIFI asserts that AT&T’s “proposal requires storing only one or the other type of location information.” KAIFI Br. 21. This is not true. Nothing in AT&T’s construction precludes storing both “types” of location information. So long as information on a locational area is stored when the data communication terminal is located outdoors, and indoor system ID information is stored when the terminal is located indoors, AT&T’s construction is satisfied. It does not matter what else is stored in the location register.

Second, KAIFI mischaracterizes the quoted embodiment in the patent. KAIFI argues that the embodiment requires the storage of two different items of information—the “indoor location (locational area) *and* indoor system ID information.” KAIFI Br. 21. This is incorrect for two reasons. First, KAIFI incorrectly equates “indoor location” to “locational area.” The quoted embodiment has no mention of storing “locational area.” Second, the quoted embodiment states that the indoor location *includes* the indoor system ID. Thus, KAIFI is wrong that “the indoor system ID” and “indoor location” are two different items. As such, KAIFI’s lone criticism fails.

E. “mobile IP” (claims 4 & 5)

AT&T’s Construction	KAIFI’s Construction
This term should have its understood meaning at the time of the application for the ’728 patent, <i>i.e.</i> , as set forth in RFC 2002 (including updates RFC 2290 and RFC 2794).	This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.

The term “mobile IP” in the ’728 patent refers to specific protocols or standards supporting mobility of data communication terminals. *See* ’728 patent at 7:44–49 (“register the user’s location

in accordance with a *mobile IP protocol*”), 9:13–15 (location register “operates in accordance with the *mobile IP protocol*”). Courts consistently hold that claims covering standards or protocols are limited to the standards or protocols that existed at the time of the claimed invention; otherwise, the meaning of the claim may change over time. *Fundamental Innovation Sys. Int’l LLC v. Samsung Elecs. Co.*, No. 2:17-cv-145-JRG-RSP, 2018 WL 647734, at *11 (E.D. Tex. Jan. 31, 2018) (limiting “USB” “to the Universal Serial Bus standards that existed at the time of the claimed invention”); *Extreme Networks, Inc. v. Enterasys Networks, Inc.*, No. 07-cv-229, 2007 WL 5601497, at *17 (W.D. Wis. Nov. 21, 2007) (limiting claim to IEEE 802.11 standards to those that existed the date the patent was filed).¹² As a consequence, “mobile IP” must be limited to the standards/protocols in existence at the time of the ’728 patent’s application.

At that time, “mobile IP” referred to a specific protocol standardized by the IETF (RFC 2002) and two supplements (RFC 2290 and RFC 2794). *See* VDW Decl. (Ex. 1) ¶ 29. This is consistent with all intrinsic and extrinsic evidence. Although the ’728 patent does not refer to RFC 2002 by name, U.S. Patent No. 6,731,621 (cited on the face of the ’728 patent and therefore part of the intrinsic record) refers to RFC 2002 as “mobile IP.” ’621 patent (Ex. 1-6) at 1:47–52. RFC 2002 aligns with exactly how “mobile IP” is described in the ’728 patent. *See* VDW Decl. (Ex. 1) ¶ 30. RFC 2002 was also referred to as “Mobile IP” in many contemporaneous industry documents. *Id.* ¶ 31 (citing RFC 2290 (Ex. 1-4) at 1–2; 3GPP2.A (Ex. 1-8) at 9, 333–34; Perkins (Ex. 1-9) at 59; ’761 patent (Ex. 5) at 6:37–40).

¹² *See also Ex Parte Michael A. Brundridge & Gang Liu*, No. 2015-003438, 2016 WL 3877159, at *2 (P.T.A.B. July 12, 2016) (“Thus, the meaning of a claim reciting a standard is tied to the version or versions of the standard in existence at the time of the invention, specifically the version or versions that a person of ordinary skill in the art would have understood the claims to refer to at the time of the invention.”); *Ex parte Rainer Falk, Gunther Horn, & Dirk Kröselberg*, No. 2012-000335, 2015 WL 2172144, at *3 (P.T.A.B. May 6, 2015).

KAIFI does not disagree that RFC 2002 is a mobile IP protocol (*see* Kelley Dep. (Ex. 4) at 226:7–10), but contends—*without support*—that there were other mobile IP protocols. *See* KAIFI Br. 23–24. But KAIFI’s expert admitted he was *not* able to provide any examples of any other mobile IP protocols that existed at the time of application for the ’728 patent. Kelley Dep. (Ex. 4) at 233:1–10, 235:22–236:3. This is because all the alleged examples of “mobile IP standards” provided by Dr. Kelley in his declaration were *not in existence* at that time. *See* VDW Reb. Decl. (Ex. 2) ¶ 40. At his deposition, Dr. Kelley contended that a publication in 2000 implied there were multiple “mobile IP” protocols, but, when challenged, Dr. Kelley admitted that the document did not identify a single protocol other than RFC 2002 that was referred to at the time as “mobile IP.” *See generally* Kelley Dep. (Ex. 4) at 228:4–236:3; *see also* Mink (Dkt. 62-44) at 555.

KAIFI contends the claims cover more than a single standard because the patent refers to “mobile IPv4 or IPv6.” KAIFI Br. 22–23. As explained above, claims covering protocols or standards are limited to the versions that existed at the time of the claimed invention. KAIFI has not identified—and neither could AT&T or its expert—any mobile IPv6 protocols in existence when the application for the patent was filed. KAIFI cannot generically claim all present and future iterations of anything that could be described as “mobile IP.”

F. “the data communication terminal may be connected with the indoor network if the registered system ID information is received” (claims 1–7, 9–11)

AT&T’s Construction	KAIFI’s Construction
“if the registered indoor system ID information is received, the communication connection of the data communication terminal may be always and automatically switched from the outdoor wireless internet network to the indoor network, but only when the quality of the indoor network is better than that of the outdoor wireless internet network after it is checked whether the quality of the indoor network is worse than that of the outdoor wireless internet network”	This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.

AT&T’s construction properly defines, using the patent’s own phrasing, this limitation that the data communication terminal “*may be connected*” with the indoor network if the registered

indoor system ID information is received. Throughout much of the patent, the “present invention” is described as the data communication terminal connecting to the indoor network when it is located indoors (when the indoor system ID information is received), and connecting to the outdoor network when it is located outdoors (when the indoor system ID information is *not* received). ’728 patent at 1:8–17, 12:24–39. This is consistent with the parties’ agreement that the ’728 patent describes an “indoor preferred” system and method. Kelley Decl. ¶ 60 (“The claimed system switches the data communication terminal to the Wi-Fi network when it is accessible (including permissions), *even if* the cellular network is available.”); VDW Decl. (Ex. 1) ¶ 27.

To stop there would be insufficient, however, because the patent provides an explicit exception to the requirement to connect to the indoor network. Specifically, the ’728 patent’s description of the “present invention” requires the data communication terminal to connect to the *outdoor* network even when it is located indoors, *if* certain “abnormal” conditions regarding the indoor network are met. ’728 patent at 11:1–6. As the ’728 patent explains in detail:

In the present invention, since the data communication quality of the indoor network is superior to that of the outdoor network, when the user moves indoors, *the communication connection may be always and automatically switched from the outdoor network to the indoor network*. However, such method may give great inconvenience to the user, if the data communication quality of the indoor network is inferior to that of the outdoor network due to any unexpected reasons.

Therefore, according to the present invention, the switching of connection between communication networks is made *only when the quality of the indoor network is better than that of the outdoor network after it is checked whether the quality of the indoor network is worse than that of the outdoor network*.

’728 patent at 12:24–39. AT&T’s construction reflects, verbatim, the italicized statements above regarding the “present invention.” *Verizon Servs. Corp. v. Vonage Holds. Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007). It’s the patent’s own description of the “present invention” (“may be always and automatically switched”) KAIFI argues “makes no sense” and will “confuse.” KAIFI Br. 25.

Indeed, “may be connected” in this limitation simply refers to this lone scenario whereby

the outdoor network is chosen over the indoor network when indoors—which KAIFI refers to as the “quality of service embodiment” (KAIFI Br. 25)—as there is no other embodiment whereby the data communication terminal does not connect to the indoor network when available. The ’728 patent also does not describe any situation whereby connecting to the indoor network is wholly permissive, without any conditions for choosing the indoor versus outdoor network while indoors, as KAIFI’s “plain meaning” would allow. Such interpretation would undermine the patent’s undisputed goals of exploiting the benefits of the indoor network. Kelley Decl. ¶ 39.

G. “a fourth step of connecting with the internet network by switching connection of the data communication terminal from the outdoor wireless internet network to the indoor gateway and making wireless communications through the indoor gateway and an indoor wireless connection module” (claims 12–15, 17–21)

AT&T’s Construction	KAIFI’s Construction
With respect to this limitation, this claimed “fourth step” must always and automatically occur upon completion of the claimed “third step,” but only when the quality of the indoor network is better than that of the outdoor wireless internet network after it is checked whether the quality of the indoor network is worse than that of the outdoor wireless internet network.	This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.

AT&T’s construction clarifies that the “fourth step” in claim 12 (and dependents) (1) occurs following the “third step,” and (2) reflects the “present invention” as explained in § II.F.

The totality of the specification, including every embodiment, confirms that the claimed fourth step (*e.g.*, switching from the outdoor wireless internet network to the indoor network) occurs after completion of the third step (*e.g.*, authenticating and storing an indoor location). *See* ’728 patent at 10:9–21, 11:34–55, 13:8–19, 14:14–17, Figs. 3–6. KAIFI contends that the fourth step can be performed at any time in relation to the third step. *See* KAIFI Br. 29–30. Not only is KAIFI’s position inconsistent with the plain language of the claims and the description of the invention, it is nonsensical. If the fourth step need not occur following the third step, then the third step’s authentication and storing of the indoor location would be meaningless. VDW Decl. (Ex. 1) ¶¶ 58–60. KAIFI argues that AT&T’s construction “excludes permitted intervening steps.”

KAIFI Br. 30. It does not. Nothing in AT&T's construction precludes the occurrence of unclaimed operations between the third and fourth steps.

The remainder of AT&T's construction reflects the parties' agreement that the "present invention" is indoor-preferred (*i.e.*, the data communication terminal connects to the indoor network if possible), except in the "abnormal" condition to which KAIFI refers as the QoS embodiment, as explained in detail above for the "may be connected" term. *See* § II.F; '728 patent at 12:24–39. As the fourth step includes the terminal switching to the indoor gateway, AT&T's construction is based on the quoted language in § II.F describing the "present invention."

H. "a seventh step of switching the connection of the data communication terminal from the indoor gateway to the outdoor wireless internet network and performing the first step again" (claims 12–15, 17–21)

AT&T's Construction	KAIFI's Construction
With respect to this limitation, this claimed "seventh step" must occur upon completion of the claimed "sixth step."	This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.

As with the "fourth step," AT&T's construction for the "seventh step" clarifies that it must occur after the sixth step. As KAIFI agrees, the sixth step includes authentication of and storing an outdoor location of the terminal, and the seventh step includes switching to the outdoor network. KAIFI Br. 30. If these steps were permitted to occur in reverse order, as KAIFI argues should be allowed (*id.*), the claim would depart from the "present invention" and every embodiment, and elements of the sixth step would be meaningless. *See* '728 patent at 4:15–22, 9:40–44, 11:25–29, 13:42–60; VDW Decl. (Ex. 1) ¶¶ 61–63. KAIFI argues that AT&T's construction precludes intervening steps between the sixth and seventh step. *See* KAIFI Br. 30. This is incorrect. AT&T's construction contains no such restriction, and Dr. van der Weide did not opine that it does. VDW Dep. (Ex. 3) at 149:14–153:17.

IV. INDEFINITENESS

A. “by connecting with the outdoor wireless internet network if the registered indoor system ID information is not received” (claims 1–7, 9–11)

AT&T’s Construction	KAIFI’s Construction
Indefinite	<p>This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.</p> <p>This term is not indefinite, does not lack antecedent basis, and is enabled and discernible in the context of the claim. A person of ordinary skill in the art would understand the scope of what is claimed.</p>

Claim 1 recites a method step within a system claim, rendering it and its dependent claims indefinite under *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1383–84 (Fed. Cir. 2005). The offending limitation of claim 1 recites, in full:

a data communication terminal that includes an indoor wireless connection module and stores registered indoor system ID information, so that the data communication terminal may be connected with the indoor network if the registered system ID information is received and by connecting with the outdoor wireless internet network if the registered indoor system ID information is not received;

’728 patent at 15:17–24. The clause immediately-preceding the underlined clause is properly phrased to recite the *capability* of the claimed system, but not to require the *use* of that capability—*i.e.*, “the data communication terminal *may be connected* with the indoor network.” *Id.* at 15:19–20. In contrast, the next clause (underlined above), is directed not to a capability but rather to the *performance* of an action by the terminal—*i.e.*, “*by connecting* with the outdoor wireless internet network.” *Id.* at 15:21–22. This renders the claim indefinite because it is “unclear whether infringement . . . occurs when one creates a[n infringing] system, or whether infringement occurs when the user actually uses [the system in an infringing manner].” *IPXL*, 430 F.3d at 1384. Here, for example, it is unclear to a POSA from the claim language whether a user infringes by creating the claimed system or when the step of “*connecting*” with an outdoor wireless internet network is performed. *See* VDW Reb. Decl. (Ex. 2) ¶ 44; VDW Dep. (Ex. 3) at 215:7–21.

KAIFI tries to avoid indefiniteness by rewriting the claims based on the specification

(KAIFI Br. at 26–27), but it is not the role of this Court to rewrite claims to save their validity.¹³ *See Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004). Furthermore, KAIFI offers no proof that the claim language chosen by the patentee is a mistake. To the contrary, the claim term in context confirms that “the use of the present participle form is intentional and should be given meaning.” *Sound View Innovations, LLC v. Facebook, Inc.*, No. 16-CV-116, 2017 WL 2221177, at *10 (D. Del. May 19, 2017). The facts here parallel those in *Sound View*, in which the court invalidated a claim as indefinite under *IPXL*. First, the patentee here utilized in method claim 12 “the same verb forms and much the same language as the challenged language in [system claim 1],” thus “support[ing] the construction that the patentee has included method steps in an apparatus claim.” *Id.*; ’728 patent at 16:35–37 (“a first step of providing the user with a communication service *by connecting* with the outdoor wireless internet network when the user is located outdoors”). Additionally, as in *Sound View*, “the transition from the present form of the verb . . . the present participle form [in claim 1] suggests that the use of the present participle form is intentional and should be given meaning.” *Id.* The patentee knew how to draft a limitation to recite a capability but did not. KAIFI’s rewrite of the claim should be rejected.

B. “the location register” (claims 1–7 and 9–11)

AT&T’s Position	KAIFI’s Construction
Indefinite	This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.

Although “location register” (without the “the”) is amenable to construction, “*the* location register” is indefinite as claimed. Claim 1 recites “*a* location register” twice, once in the preamble

¹³ KAIFI mischaracterizes Dr. van der Weide’s testimony in asserting he conceded the term was not indefinite. KAIFI Br. 26–27. He testified only that the phrase “by connecting with” standing alone was understandable to a POSA as a method step, but confirmed that it became unclear to a POSA when used in a system claim. VDW Dep. (Ex. 3) at 216:2–9.

and again in the body. ’728 patent at 15:14, 15:31. It is not reasonably certain to a POSA (1) whether the two location registers can, must, or must not be one and the same, and (2) whether subsequent references to “*the* location register” in claim 1 and its dependents refer back to the first or second recitation of “a location register” (or both). *See* VDW Decl. (Ex. 1) ¶¶ 35–40. *See Nautilus, Inc. v. Biosig Instrum., Inc.*, 572 U.S. 898, 901 (2014).

More specifically, the preamble of claim 1 recites “an outdoor wireless internet network including . . . a location register”—this means there must be a location register as part of an outdoor wireless internet network. ’728 patent at 15:12–14. The body of claim 1 then recites that the system comprises “a location register that stores information of the data communication terminal.” *Id.* at 15:31–33. This second instance of “location register” does not say “*the* location register” but again repeats “a location register.” Notably, this second instance of “a location register” does not state that it must be part of the outdoor network; the claim states, however, that this location register must “store location information of the data communication terminal.” Thus, claim 1 recites two location registers, one of which must be part of the outdoor network with no limitation on its storage (preamble) and the other with no set association¹⁴ but that must store specific location information (body). The claim is not reasonably certain to a POSA how the second instance of “a location register” relates, if at all, to the first. *See* VDW Decl. (Ex. 1) ¶ 36.

Further exacerbating the ambiguity, the final limitation of claim 1 recites: “a router that determines the location of the data communication terminal stored in *the location register*.” It is unclear, however, whether “*the* location register” is referring to the one recited in the preamble

¹⁴ In fact, the “location register” limitation in the body of the claim 1 requires that the location register “stores location information of the data communication terminal received *through the indoor network or outdoor wireless internet network*.” ’728 patent, cl. 1 (emphasis added). Thus, the claim contemplates that this “location register” could be external to both the indoor and outdoor network. *See* ’728 patent at cl. 1, 8:31–42, Fig. 2 and discussion below.

(which must be part of the outdoor network) or in the third element of the body of the claims (which contains no such location restriction). The claims can reasonably be interpreted either way, each resulting in a different scope. Dependent claims 4, 5, and 6 similarly recite “*the* location register,” again without specifying which of the “location registers” required by the independent claim they refer to. The scope of these claims differs depending on which “location register” in independent claim 1 the dependent claim refers to. VDW Decl. (Ex. 1) ¶ 37.

The specification does not provide any clarity. The specification includes embodiments in which a location register is located in the outdoor network¹⁵ (as required in the preamble of claim 1), as well as an embodiment in which a location register is located in an “external network”¹⁶ (which is separate from the indoor and outdoor networks). Thus, the specification confirms that the “location register” introduced in the body of the claims and in the dependent claims may or may not be located in the outdoor network, leaving a POSA unsure on the relationship to the “location register” introduced in the preamble. *See* VDW Decl. (Ex. 1) ¶ 38.

KAIFI’s sole rebuttal to this fatal flaw is to say there is no antecedent basis problem because the preamble is not limiting. *See* KAIFI Br. 20. But the preamble here is limiting because it provides antecedent basis for other terms in the body of the claim. *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). For example, the preamble introduces “*an* indoor network” and “*an* outdoor wireless internet network,” which are thereafter referred to as “*the* indoor network” and “*the* outdoor wireless internet network” in the body of the claim.

¹⁵ *See* ’728 patent at 6:34–40 (“The outdoor wireless LAN network includes . . . a location register 80”), 6:43–46 (“The wireless packet communication network comprises . . . a location register 80”), 6:47–52 (“The outdoor wireless LAN network includes . . . a location register 80”), Figs. 1a & 1b.

¹⁶ *See* ’728 patent at 8:31–42 (“an external network including the location register 80”), Fig. 2.

'728 patent at 15:10–24. KAIFI also argues that AT&T cannot assert now that the preamble is limiting because it did not say so in the P.R. 4-3 disclosure, but KAIFI cites no authority that AT&T was required to do so; nor do the Patent Local Rules include such a requirement.¹⁷

Finally, KAIFI asserts that “[a]n antecedent issue does not necessarily render a term indefinite” because “[h]ere, there is no confusion as to the technical understanding of ‘location register.’” KAIFI Br. 20 (citing to specification of '728 patent). But this argument misses the point: AT&T agrees that “location register” by itself is amenable to construction. *See, supra*, § III.C. The antecedent basis issue arises because there is ambiguity in the use of “*the* location register” in the claims. The Federal Circuit has made clear that “[a] claim must be read in accordance with the precepts of English grammar.” *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983). Any attempt by KAIFI to rehabilitate the claim language should be rejected.

C. “the indoor wireless connection module” (claims 1–7 and 9–11)

AT&T’s Position	KAIFI’s Construction
Indefinite	<p>This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.</p> <p>This term is not indefinite, does not lack antecedent basis, and is enabled and discernible in the context of the claim. A person of ordinary skill in the art would understand the scope of what is claimed.</p>

This term is indefinite for lacking sufficiently clear antecedent basis. Claim 1 recites “an indoor wireless connection module” in two places—one in “a data communication terminal” and another in “an indoor gateway.” '728 patent at 15:17–18, 15:25–26. Claim 1 then recites that the

¹⁷ Other courts have found no waiver of arguments that the preamble is not limiting. *See, e.g., SIMO Holdings Inc. v. Hong Kong uCloudlink Network Tech. Ltd.*, 376 F. Supp. 3d 369, 379 (S.D.N.Y. 2019); *CollegeNET, Inc. v. MarketLinx, Inc.*, 2010 WL 11566364, at *8 (W.D. Tex. Sept. 14, 2010). Further, KAIFI has been on notice that “the location register” is indefinite since the P.R. 4-3 submission (which makes no sense if the preamble was not limiting). JCCS at 10. Also, Dr. van der Weide opined that the preamble of claim 1 is limiting because beyond “the ‘location register’ issue, the preamble of claim 1 provides antecedent basis for elements in the body of the claim,” such as “*an* indoor network” and “*an* outdoor wireless network.” VDW Decl. (Ex. 1) ¶ 36 & n.10.

“indoor gateway . . . makes wireless communications with the data communication terminal through *the* indoor wireless connection module.” *Id.* at 15:27–29. It is not reasonably certain to a POSA to which of the two recited indoor wireless connection modules the phrase “*the* indoor wireless connection module” refers. *See* VDW Decl. (Ex. 1) ¶¶ 41–43. Likewise, dependent claims 9 and 11 recite “*the* indoor wireless connection module” without specifying which of the two indoor wireless connection modules in claim 1 is being referenced. ’728 patent at 16:17–19, 16:24–27; VDW Decl. (Ex. 1) ¶ 44.

The distinction is critical, because the different paths of communication through either or both of the indoor wireless connection modules affects the claim scope, and multiple interpretations are plausible. The specification does not help, as it discloses that both a data communication terminal and an indoor gateway may include indoor wireless connection modules, and both can be used for communication. *Id.* at 2:52–54, 3:23–46, Fig. 2 (indoor wireless connection module 10A and indoor wireless connection module 100C).

KAIFI again rewrites the claims. KAIFI ignores the ambiguity in the claim language and arbitrarily chooses one of the multiple plausible interpretations. KAIFI Br. 28. But this misses the point: a POSA would not know which of the meanings applies. KAIFI also again argues that “the technical term itself . . . would be understandable to a POSA.” But as Dr. van der Weide explained, the issue is “not that the standalone term . . . is indefinite—rather, [the issue is] that the phrase “*the* indoor wireless connection module” is indefinite *in the context of the claims.*” VDW Reb. Decl. (Ex. 2) ¶ 47. KAIFI’s attempt to “fix” the claims also improperly imports limitations from the specification. If the patentee wanted to claim making wireless communications through both indoor wireless connection modules, he knew how to do so, given that the written description expressly differentiates the two. *See* ’728 patent at Fig. 2.

D. “the indoor wireless connection module is housed in the data communication terminal and the indoor gateway, respectively” (claim 15)

AT&T’s Position	KAIFI’s Construction
Indefinite	<p>This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.</p> <p>This term is not indefinite, does not lack antecedent basis, and is enabled and discernible in the context of the claim. A person of ordinary skill in the art would understand the scope of what is claimed.</p>

Claim 15 is indefinite on its face. Independent claim 12 recites only one “indoor wireless connection module.” ’728 patent at 16:49–54 (“a fourth step of . . . making wireless communications though the indoor gateway and an indoor wireless connection module”). Claim 15, which depends from claim 12, implies that either there are *two* indoor wireless connection modules or a single module existing in two places at once: “the indoor wireless connection module is housed in the data communication terminal *and* the indoor gateway, *respectively*.” *Id.* at 17:15–17. The intrinsic record provides no teaching about how a single indoor wireless connection module could be housed in two different devices at the same time. *See, e.g., id.* at 2:52–54, 3:23–46, 8:47–61, 9:3–5. Thus, a POSA would not know how the indoor wireless connection module recited in claim 15 relates to the one recited in claim 12.

KAIFI argues that claim 15 introduces a second module. KAIFI Br. 28. Aside from being another example of attempting to rewrite the claims, KAIFI does not explain whether and how this second module relates to the one recited in claim 12, or how the recitation in claim 15 of “*the* indoor wireless connection module” (in the singular) specifies locations for two different modules. *See* ’728 patent at 17:15–17. The Court should reject KAIFI’s attempt to redraft the claims in the face of an indefiniteness challenge. *See Chef Am.*, 358 F.3d at 1374.

E. “a second step of determining whether when indoor system ID information is received by the data communication terminal and the received indoor system ID information is identical to indoor system ID information stored in the location register” (claims 12–15, 17–21)

AT&T's Position	KAIFI's Construction
Indefinite	<p>This term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.</p> <p>This term is not indefinite, does not lack antecedent basis, and is enabled and discernible in the context of the claim. A person of ordinary skill in the art would understand the scope of what is claimed.</p>

This term, by inclusion of “whether when,” makes no sense and is therefore indefinite. The claim cannot be rewritten to give it meaning, as there is no indication whether the patentee intended to include the word “whether” or “when.” For example, it is not reasonably certain whether the limitation requires determining *whether* something (e.g., receiving system ID information) occurs (a binary determination) or *when* something occurs (a temporal determination), or both. *See* VDW Decl. (Ex. 1) ¶ 52. This distinction is material to claim scope: a binary determination would be a single determination after which the steps of the process could continue regardless of the result of the determination, while a temporal determination requires waiting for the condition to be true, only after which the steps of the process can continue. *Id.* ¶ 53. The intrinsic record provides support for both embodiments:

- **Binary (whether):** “broadcast the *indoor system ID information* through the indoor wireless connection module *at a predetermined time interval.*” ’728 patent at 9:7–12.
- **Temporal (when):** “*if* the registered indoor system ID information is not received.” *Id.* at 3:32–34.

Thus, for example, a POSA would not know whether the limitation requires determining “*when* indoor system ID information is received by the data communication terminal,” in relation to the disclosed predetermined time period, or determining simply “*whether* indoor system ID information is received by the data communication terminal” was received at all.

KAIFI contends this term does not require construction because any ambiguity is only a “typographical error,” but then immediately rewrites the term. KAIFI Br. 28–29. This conflicts with the limitation’s plain language, and highlights that without corrective redrafting, the term is indefinite. Redrafting to fix indefiniteness is not the job of this Court. *Chef Am.*, 358 F.3d at 1374.

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing document was filed electronically in compliance with Local Rule CV-5(a). As such, this notice was served on all counsel who have consented to electronic service, per Local Rule CV-5(a)(3)(A), on March 2, 2020.

/s/ Neema Jalali